

Dr. Gabrielle D. Allen

gallen@cct.lsu.edu

<http://www.cct.lsu.edu/~gallen>

Personal Details

Date of Birth:	7th July 1967	Sex:	Female
Place of Birth:	Barking, England	Marital Status:	Single
Nationality:	British	Visa Status:	H1-B (since 2003)

Education

Ph.D., Computational Astrophysics, Cardiff University, UK, 1993. Thesis Advisor, Prof. Bernard Schutz

Certificate of Advanced Study in Mathematics (Part III), Cambridge University, UK, 1989.

B.Sc in Mathematics (First Class Honours), Nottingham University, UK, 1988.

Current Positions

Associate Professor of Computer Science, August 2003 - present

Louisiana State University, Baton Rouge, Louisiana, USA

Adjunct Professor of Physics, August 2003 - present

Louisiana State University, Baton Rouge, Louisiana, USA

Lead of Louisiana Statewide CyberTools Project, September 2008 - present

Responsibilities include:

- Development of cyberinfrastructure through the Louisiana NSF Research Infrastructure Improvement award
- Coordination of faculty, postdocs and students at four sites in Louisiana
- Development of interactions between cyberinfrastructure and science domains
- Education and outreach

Lead of Cactus Project, 1997 - present

Cactus (<http://www.cactuscode.org>) is a modular, parallel and collaborative programming environment for large scale, complex, scientific applications, with many users in numerical relativity, computational fluid dynamics, coastal modeling, reservoir engineering, quantum gravity, and other areas. Cactus is currently funded by NSF, DOE and ONR.

Recent Professional Activities

NSF OCI Task Force on Software Infrastructure, 2009.

Co-chair for International Conference on Computational Science, Baton Rouge, 2009.

Reviewer for High End Computing in Ireland for Science Foundation Ireland (2007, 2008)

Program Committees: ParCo 2009, HAPCW2006, High Performance Computing Symposium (HPC 2007, HPC 2006)

Journal Reviews: Journal of Computational and Applied Mathematics, Journal of Parallel and Distributed Computing, International Journal on Grid Computing, Future Generation Computer Systems, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Education.

Grant Reviews: DOE SCIDAC, NSF MRI, NSF IGERT, NSF CSR, NSF ITR, NSF Resource Allocation Committee LRAC/MRAC (2005-2008)

Previous Positions

Assistant Director for Computing Applications, August 2003 - September 2008

Center for Computation & Technology, Louisiana State University, Baton Rouge, Louisiana, USA

Responsibilities included:

- Strategic planning for CCT
- Development of CCT-wide cross-disciplinary research programs, projects and proposals.
- Contacts and collaborations with departments at LSU and other national and international institutions.
- Establishment of CCT (Equipment, hiring, policies and procedures, grants and funding)
- Coordination of faculty involved with CCT, including all faculty meetings and workshops
- Establishment and organization of CCT programs (education, fellowships, faculty development, seminars).
- Economic development (Meetings with e.g. DOW, IBM, Shell, ...).
- Advertising mission of CCT.
- Representing CCT on programs/funding opportunities across the university.
- Management of CCT budget for focus area research groups.

Focus Area Head (Interim), Core Computing Science, August 2003 - September 2008

Center for Computation & Technology, Louisiana State University, Baton Rouge, Louisiana, USA

- Developing and coordinating research activities related to core computational science at the CCT, including Grid Computing, Scientific Computing, Computational Mathematics, Frameworks, Sensors and Networks.
- Working with leads of research groups to hire staff and develop research programs.
- Managing the budget of the Core CS area and attending administrative meetings at CCT.
- Organizing regular meetings of the Core CS area.

Lead of Computational Science Group, Albert Einstein Institute, Golm, Germany, (2000-2003)

Visiting Scientist, Argonne National Laboratory, 2000-2003

Cactus Project Leader, Albert Einstein Institute, Golm, Germany, 1998-2001

Max-Planck Postdoctoral Fellowship, Albert Einstein Institute, Golm, Germany, 1995-1998

Particle Physics & Astrophysics Research Council Research Associate, Cardiff University, 1995

Science and Engineering Research Council Fellowship, Cardiff University, 1993-1995

Sponsored Student, Rolls Royce and Associates, Derby, 1985-1988.

Prizes and Awards

Winner of Second IEEE International Scalable Computing Challenge (SCALE 2009), Shanghai May 2009, for *Large Scale Problem Solving Using Automatic Code Generation and Distributed Visualization*.

CCT Excellence in Research Award for Faculty, 2006.

Winner of Best Paper at GCE 2005 (Workshop on Grid Computing Portals, Supercomputing 2005) for *An Application Portal for Collaborative Coastal Modeling* (C. Zhang, C. Dekate, G. Allen, I. Kelley and J. MacLaren).

Member of winning team for HPC Challenge Awards (Supercomputing 2002, November 2002), *Most Geographically Distributed Application* and *Most Heterogeneous Set of Platforms*.

Member of winning team for High-performance bandwidth challenge (Supercomputing 2002, November 2002), *Highest Performing Application: Wide Area Distributed Simulations Using Cactus, Globus and Visapult*.

Winner of Gordon Bell Prize for Supercomputing (Special Category, Supercomputing 2001, November 2001) for the paper *Supporting Efficient Execution in Heterogeneous Distributed Computing Environments with Cactus and Globus* (T. Damlitsch, G. Allen, E. Seidel, I. Foster, B. Toonen, N. Karonis, M. Ripeanu).

Awarded pen for top academic user of NCSA Origin 2000, March 1999.

Recipient of Postdoctoral SERC fellowship, 1993.

Recipient of SERC research grant, 1993.

Elizabeth and J.D. Marsden Prize for Female Students, Nottingham University, 1988.

Research Interests

Grid and Distributed Computing: Design of tools and techniques which exploit the worldwide *Grid* of computational resources, particularly with regard to making such resources more accessible for real applications, enabling large-scale computing. (e.g. Remote visualization, monitoring and steering. Distributed data management. Resource brokering and selection. Information services. Scheduling. Application portals and problem solving environments. Distributed computing. Mobile Access. Grid toolkits for application programmers. Testbeds. Working practices and policies. Collaborative use of the Grid.)

Computational Science: Parallel computing methods and paradigms. Frameworks and toolkits. Collaborative techniques and working practices. Increasing ease-of-use of resources for application programmers and users.

Computational Physics and Scientific Applications: Algorithms, numerical relativity and astrophysics. Coastal science. Petroleum Engineering. Computational Fluid Dynamics.

Teaching

- Video Game Design (CS4700/CS4999): Fall 2007, Spring 2008, Fall 2008, Spring 2009
- Grid Computing (CS7700): Fall 2007, Fall 2005, Spring 2004
- Numerical Methods for Fluid Dynamics (HON4823): Fall 2007, Fall 2006, Spring 2006
- Numerical Methods (CS2262): Spring 2007
- General Relativity: 1996, 1997

Major Grants and Funding

Current Grants:

- **NSF EAGER**, *Strategies for Remote Visualization on a Dynamically Configurable Testbed*, \$300,000. Partners LSU, NCSA, ORNL, Internet2, LONI, August 2009 to July 2011, Principal Investigator.
- **NSF OCI**, *PetaCactus: Unraveling the Supernova — Gamma-Ray Burst Mystery*, \$1,461,455. co-PI.
- **NSF PRAC**, *Enabling Science at the Petascale: From Binary Systems and Stellar Core Collapse To Gamma-Ray Bursts*, \$26,200. co-PI.
- **NSF PIF Collaborative Research: Community Infrastructure for General Relativity MHD (CIGR)**, \$400,000. Principal Investigator.
- **DOE/BOR: Ubiquitous Computing and Monitoring System (UCoMS) for Discovery and Management of Energy Resources**, \$3.3M (total). Co-PI at LSU.
- **NSF OCI: The LONI Grid - Leveraging HPC Resources of the Louisiana Optical Network Initiative for Science and Engineering Research and Education**, \$2.2M (Total, LSU). Senior Investigator.
- **NSF OCI: Leadership-Class Scientific and Engineering Computing: Breaking Through the Limits (Blue Waters)**, \$208M (Total), \$160K (LSU). PI at LSU.
- **NSF ESPCOR/BOR: Louisiana's Research Infrastructure Improvement Strategy (Includes CyberTools)**, \$12M (Total), October 2007 to September 2010, PI at LSU (subcontracts to ULL, LATECH, Southern), Lead of CyberTools Component.
- **NSF OCI: ALPACA: Cactus Tools for Application Level Performance and Correctness Analysis**, \$587K (Total, LSU), October 1st 2007 to August 31st 2010, co-PI.
- **NSF MPS: XiRel: A Next Generation Infrastructure for Numerical Relativity**, \$250K (Total, LSU), September 2007 to July 2010, Principal Investigator.
- **BOR PKSFI: Center of Excellence in Integrated Smart Sensor Surveillance System (CyberSpace)**, \$3,638,000 (Total), June 207 to June 2012, co-PI.
- **BOR PKSFI: The LONI Institute: Advancing Biology, Materials, and Computational Sciences doe Research, Education and Economic Development**, \$7M (Total), June 2007 to May 2012, Senior Investigator.
- **DOD/ONR: Development of a Unified Modeling Framework for Simulations of Coastal Processes in Deltaic Environments Using High-Performance Computing (COMI)**, \$463K (LSU, June 2007 to May 2010, co-PI.
- **NSF CNS: MRI: Development of PetaShare: A Distributed Data Archival, Analysis and Visualization System for Data Intensive Collaborative Research**, \$958K, August 2006 to July 2010, co-PI.
- **NSF IGERT IGERT on Multi-scale Computations of Fluid Dynamics**, \approx \$3,200,000 (all to LSU), September 2005 to September 2010. co-PI.
- **NSF LRAC Numerical Relativity and Black Hole Mergers**, Computer allocation at National Centers. Over 5,000,000 CPU hours (SUs) across various NSF sites, 2008 to 2009. co-PI.

Recent Grants:

- **SURA/NOAA: SURA Coastal Ocean Observing and Prediction Program**, \$150K (LSU), December 2006 to August 2008, PI at LSU.

- **NSF DDDAS:** *DynaCode: A General DDDAS Framework with Coast and Environment Modeling Applications*, \$220,000, January 1, 2006 to December 31st, 2008. Principal Investigator.
- **NSF CNS:** *EnLIGHTened Computing: Highly-dynamic Grid E-science Applications Driving Adaptive Optical Control Plane and Compute Resources*, \$50,000, 1st September 2005 to 31st August 2006. Principal Investigator at LSU.
- **DOE and Louisiana BOR:** *Ubiquitous Computing and Monitoring Systems for Discovery and Management of Energy Resources (UCOMS)*, \$2.4M (\$582,000 to LSU), August 15, 2004 to August 14, 2007. Principal Investigator at LSU.
- **NSF NMI:** *GridChem: Cyberinfrastructure for Computational Chemistry*, \$2.7M (\$600,000 to LSU), October 1, 2004 to September 30, 2007. Principal Investigator at LSU. (Summer salary)
- **SURA (NOAA/ONR):** *SCOOP: SURA Coastal Ocean Observing Program*, Around \$7M (\$480,000 to LSU), September 2004 to November 2006. Principal Investigator at LSU.
- **DFG-SFB, Germany** *Gravitational Wave Astronomy: Methods — Sources — Observations*. Over 4M Euros shared between 5 institutes over 4 years. Senior Investigator.
- **EU 5th Framework Program: Information Society Technologies:** *GridLab: A Grid Application Toolkit and Testbed*, ~ \$7,000,000 (~ \$1,000,000 to AEI), January 1, 2002 to April 1, 2005. Primary author and PI at AEI.
- **DFN Verein, Germany:** *“GriKSL”: Development of Grid Based Simulation and Visualization Techniques*, approx. 1M DM, April 2002 to March 2004, co-PI at AEI.
- **EU 5th Framework Training Network:** *Theoretical Foundations of Sources for Gravitational Wave Astronomy of the Next Century: Synergy between Supercomputer Simulations and Approximation Techniques*, ~ 2,000,000 (total), January 2001 to April 2004, co-PI at AEI.

Currently Under Review

- **NSF STCI** *Strategies for Remote Visualization on a Dynamically Configurable Testbed*, \$875,555. Partners LSU, NCSA, ORNL, Internet2, LONI. Principal Investigator.
- **NSF**, *Center for Ubiquitous Parallel Computing Applications*, \$375,000, with UIUC, co-PI.
- **NSF GENI**, *Lessons for the GENI Architecture from the EnLIGHTened Computing Infrastructure*, \$29,759. co-PI.
- **DHS**, *NIMSAT DHS Center of Excellence for Command, Control and Interoperability*, \$3,608,568. co-PI.

Students and Postdocs Supervised

Graduate Students

- Current graduate students: Archit Kulshrestha (PhD, Computer Science), Andrei Hutanu (PhD, Computer Science), Vinay Amatya (PhD, Computer Science), Jiang Lei (PhD Computer Science).
- Masters in System Science, LSU: Feng Jiao (2009), Dylan Stark (2007), Santiago Pena (2007), Xiaoxi Xu (2007), Sasanka Madiraju (2006), Chongjie Zhang (2006), Chirag Dekate (2004), Archit Kulshrestha (2004).
- Thomas Dramlitsch, PhD thesis, Distributed Computing, University of Potsdam, 2002. Co-supervised with Edward Seidel.

- Gerd Lanfermann, PhD thesis, Grid Computing, University of Potsdam, 2002. Co-supervised with Edward Seidel.

Graduate Committee Member

- **Current:** Esma Yildirim (PhD, Computer Science), Zhifeng Yun (PhD, ECE), Wesley Evan (PhD, Physics), Mehmet Balman (PhD, Computer Science)
- **Previous:** Samantha Danchuk (PhD, Coastal Engineering, 2009), Jason Tate (Masters, System Science, 2009), Xin Li (PhD, Petroleum Engineering, 2008), Sirish Tumula (Masters, System Science, 2008), Emrah Ceyhan (Masters, System Science, 2007), Prathyusha Akunuri (Masters, ECE, 2007), Aran Nayar (Masters, Engineering, 2005), Shangli Ou (Masters, System Science, 2004)

Undergraduate Students

- Undergraduate Mentoring at LSU: Irina Craciun (Math, 2008), Razvan Carbenescu (CS/Math, 2008), Ana Buleu (ECE), Elena Caraba (Math, 2008), Andrew Davidson (ECE, 2008), John Lewis (CS, 2009), Alex Nagelberg (CS, 2009), Tyler Barker (CS/Math, University Medalist/Honors, 2009), Alex Clary (ECE), Kevin Kolz (CS, 2008), Edwin Lee (ECE, 2009), Colby Jordan (CS, 2009).
- Henryk Feider, Diplome thesis, University of Potsdam, 2003.
- Annabelle Roentgen, Vordiplome, University of Potsdam, 2002.

Postdocs

- Frank Loeffler, LSU, 2007—
- Jian Tao, LSU, 2007—2009
- Shangli Ou, LSU, 2004 — 2005
- David Rideout, AEI, 2001— 2003.

Publications

Books and Monographs

- A1 G. Allen, J. Nabryzski, E. Seidel, G.D. van Albada, J.J. Dongarra and P.M.A. Sloot: in Computational Science - ICCS 2009: 9th International Conference, Baton Rouge, USA, Proceedings, Part I, in series Lecture Notes in Computer Science.
- A2 Proceedings of the 13th Annual Mardi Gras Conference, Frontiers of Grid Applications and Technologies, 3-5 February 2005, Baton Rouge, Editors: Gabrielle Allen, Karen Jones, Ravi Paruchuri and Archit Kulshrestha.

Chapters in Books

- B1 Zhou Lei, Zhifeng Yun, and Gabrielle Allen, Grid Resource Allocation, in Grid Computing: Infrastructure, Service, and Applications, Ed: L. Wang, J. Wei and J. Chen, ISBN-10: 1420067664, CRC Press (2008).
- B2 Gabrielle Allen, Phil Bogden, Richard A. Luetlich Jr, Ed Seidel, Robert Twilley, *Designing a Dynamic Data Driven Application System for Coastal and Environmental Modeling*, in IFIP International Federation for Information Processing, Volume 239, Grid-Based Problem Solving Environments, Eds. Gaffney, P.W., Pool, J.C.T., (Boston: Springer), pp. 275-293,(2007).

- B3 Erik Schnetter, Christian Ott, Gabrielle Allen, Peter Diener, Tom Goodale, Thomas Radke, Edward Seidel, John Shalf, *Cactus Framework: Black Holes to Gamma Ray Bursts*, in *Petascale Computing: Algorithms and Applications*, Ed. D. Bader, CRC Press LLC (2007).
- B4 Gabrielle Allen and Ed Seidel, *Collaborative Science: Astrophysics Requirements and Experiences*, in *The Grid: Blueprint for a New Computing Infrastructure (2nd Edition)*, Ed: Ian Foster and Carl Kesselmann, p. 201-213, (2004).
[\[LOCATION: CS.Allen04b.pdf\]](#)
- B5 Michael Russell, Gabrielle Allen, Jarek Nabrzyski, Tom Goodale, and Ed Seidel, *Applications Requirements for Resource Brokering in a Grid Environment*, In *Grid Resource Management: State of the Art and Future Trends (International Series in Operations Research and Management Science)*, Ed: J. Nabrzyski, J. Schopf and J. Wagarz, Kluwer Academic Publishers, Pages 25-40, (2004).
[\[LOCATION: CS.Russell03a.pdf\]](#)
- B6 Gabrielle Allen, Tom Goodale, Michael Russell, Ed Seidel and John Shalf, *Classifying and Enabling Grid Applications*, chapter in *Grid Computing: Making the Global Infrastructure a Reality*, Ed: F. Berman, G. Fox, A. J. G. Hey, John Wiley, Pages 601-614, (2003).

Journals

- C1 Daniel S. Katz, Gabrielle Allen, Ricardo Cortez, Carolina Cruz-Neira, R. Gottumukkala, Z. D. Greenwood, Les Guice, Shantenu Jha, R. Kolluru, Tevfik Kosar, Lonnie Leger, H. Liu, Charlie McMahon, Jarek Nabrzyski, Bety Rodriguez-Milla, Ed Seidel, G. Speyrer, Michael Stubblefield, Brian Voss, S. Whittenburg, *Louisiana: A Model for Advancing Regional e-Research through Cyberinfrastructure*, *Phil. Trans. R. Soc. A* 28, June 2009, vol. 367, no. 1897, 2459-2469, (2009).
[\[LOCATION: CS.Katz09a.pdf\]](#)
- C2 X. Wang, Dayong Huang, Ismail Akturk, Mehmet Balman, Gabrielle Allen and Tevfik Kosar, *Semantic Enabled Metadata Management in PetaShare*, *International Journal of Grid and Utility Computing (IJGUC)*, Volume 1, No. 4, (2009).
[\[LOCATION: CS.Wang09a.pdf\]](#)
- C3 Gabrielle Allen, Philip Bogden, Gerald Creager, Chirag Dekate, Carola Jesch, Hartmut Kaiser, Jon MacLaren, Will Perrie, Gregory Stone, Xiongping Zhang, *Towards an integrated GIS-based coastal forecast workflow*, *Concurrency and Computation: Practice and Experience*, Volume 20 Issue 14, Pages 1637 - 1651, (2008).
[\[LOCATION: CS.Allen06a.pdf\]](#)
- C4 Zhou Lei, Gabrielle Allen, Promita Chakraborty, Dayong Huang, John Lewis, Xin Li, Christopher D. White, *A Grid-enabled problem-solving environment for advanced reservoir uncertainty analysis*, *Concurrency and Computation: Practice and Experience*, Volume 20, Issue 18, (2008).
[\[LOCATION: CS.Lei08a.pdf\]](#)
- C5 Phil Bogden, Tom Gale, Gabrielle Allen, John MacLaren, Guy Almes, Gerry Creager, Joanne Bintz, L. D. Wright, Hans Graber, N. Williams, Sara Graves, Helen Conover, Ken Galluppi, Rick Luettich, Will Perrie, B. Toulany, Y. P. Sheng, Justin R. Davis, Harry Wang, David Forrest, *Architecture of a community infrastructure for predicting and analyzing coastal inundation*, *Marine Technology Society Journal*, 41, No 1: 53-71, (2007).
[\[LOCATION: MTSFinal.2007.pdf\]](#)
- C6 Chongjie Zhang, Chirag Dekate, Gabrielle Allen, Ian Kelley and Jon MacLaren, *An Application Portal for Collaborative Coastal Modeling*, *Concurrency and Computation: Practice and Experience*, Volume 19, Issue 12, p. 1571-1581, (2007).
[\[LOCATION: CS.Zhang05b.pdf\]](#)

- C7 Chongjie Zhang, Ian Kelley and Gabrielle Allen, *Grid Portal Solutions: A Comparison of GridPortlets and OGCE*, Concurrency and Computation: Practice and Experience, Volume 19, Issue 12, p. 1739-1748, (2007).
[LOCATION: [CS_Zhang05a.pdf](#)]
- C8 Andrei Hutanu, Gabrielle Allen, Stephen D. Beck, Petr Holub, Hartmut Kaiser, Archit Kulshrestha, Milos Liska, Jon MacLaren, Ludek Matyska, Ravi Paruchuri, Steffen Prohaska, Ed Seidel, Brygg Ullmer, Shalini Venkataraman, *Distributed and Collaborative Visualization of Large Data Sets Using High-speed Networks*, Future Generation Computer Systems, Volume 22, Issue 8, p 1004-1010, (2006).
[LOCATION: [CS_Hutanu06a.pdf](#)]
- C9 Rion Dooley, Kent Milfeld, Chona Guiang, Sudhakar Pamidighantam, Gabrielle Allen, *From Proposal to Production: Lessons Learned Developing the Computational Chemistry Grid Cyberinfrastructure*, Journal of Grid Computing, Jan 2006, Pages 1 - 14, DOI 10.1007/s10723-006-9043-7, (2006)
[LOCATION: [CS_Dooley05a.pdf](#)]
- C10 Gabrielle Allen, Kelly Davis, Tom Goodale, Andrei Hutanu, Hartmut Kaiser, Thilo Kielmann, Andre Merzky, R. Van Nieuwpoort, A. Reinefeld, F. Schintke, T. Schuett, Ed Seidel and B. Ullmer, *The Grid Application Toolkit: Toward Generic and Easy Application Programming Interfaces for the Grid*, Proceedings of the IEEE, 93(3), (2005).
[LOCATION: [CS_Allen05a.pdf](#)]
- C11 Ruxandra Bondarescu, Gabrielle Allen, Greg Daues, Ian Kelley, Michael Russell, Ed Seidel, John Shalf and M. Tobias, *The Astrophysics Simulation Collaboratory Portal: a Framework for Effective Distributed Research*, Future Generation Computer Systems, Volume 21, Issue 2, Pages 259-270, (2005).
[LOCATION: [CS_Bondarescu03a.pdf](#)]
- C12 Miguel Alcubierre, Gabrielle Allen, Carlos Bona, David Fiske, Tom Goodale, Francisco S. Guzman, Ian Hawke, Scott Hawley, Sascha Husa, Michael Kopitz, Christiana Lechner, Denis Pollney, David Rideout, Marcelo Salgado, Erik Schnetter, Ed Seidel, H. Shinkai, Deirdre Shoemaker, Bela Szilagyi, Ryoji Takahashi, Jeff Winicour, *Towards standard testbeds for numerical relativity*, Class. Quantum Grav., 21(2), p. 589-613, (2004).
[LOCATION: [CS_Alcubierre04a.pdf](#)]
- C13 Gabrielle Allen, Kelly Davis, N. Dolkas, N. D. Doulamis, Tom Goodale, Thilo Kielmann, Andre Merzky, Jarek Nabrzyski, J. Pukacki, and Thomas Radke, *Enabling applications on the grid: A Gridlab overview*, International Journal of High Performance Computing Applications, Volume 17, Number 4, Pages 449-466, (2003).
[LOCATION: [CS_Allen03c.pdf](#)]
- C14 Ed Seidel, Gabrielle Allen, Andre Merzky and Jarek Nabrzyski, *GridLab — A Grid Application Toolkit and Testbed*, Future Generation Computer Systems, Volume 18, Issue 8, Pages, 1143-1153, (2002).
[LOCATION: [New_Seidel02.pdf](#)]
- C15 Michael Russell, Gabrielle Allen, Ian Foster, Ed Seidel, Jason Novotny, John Shalf, Gregor von Laszewski and Greg Daues, *The Astrophysics Simulation Collaboratory: A Science Portal Enabling Community Software Development*, Journal on Cluster Computing, Volume 5, Issue 3, Pages 297—304, (2002).
[LOCATION: [New_Russell02.pdf](#)]
- C16 Gregor von Laszewski, Michael Russell, Ian Foster, John Shalf, Gabrielle Allen, Greg Daues, Jason Novotny and Ed Seidel, *Community Software Development with the Astrophysics Simulation Collaboratory*, Concurrency and Computation: Practice and Experience, Volume 14, Issue 13-15, Pages 1289-1301, (2002).
[LOCATION: [New_Laszewski02.pdf](#)]

- C17 Gabrielle Allen, Dave Angulo, Ian Foster, Gerd Lanfermann, C. Liu, Thomas Radke, Ed Seidel and John Shalf, *The Cactus Worm: Experiments with Dynamic Resource Discovery and Allocation in a Grid Environment*, *International Journal of High Performance Computing Applications*, **15**(4), (2001).
[LOCATION: [CS.Allen01x.pdf](#)]
- C18 Gabrielle Allen, Werner Benger, Tom Goodale, H. Hege, Gerd Lanfermann, Andre Merzky, Thomas Radke, Ed Seidel and John Shalf, *Cactus Tools for Grid Applications, Cluster Computing*, Volume 4, Issue 3, Pages 179-188, (2001).
[LOCATION: [CS.Allen01xb.pdf](#)]
- C19 Miguel Alcubierre, Gabrielle Allen, Bernd Brügmann, Gerd Lanfermann, Ed Seidel, Wai-Mo Suen, Malcolm Tobias, *Gravitational Collapse of Gravitational Waves in 3D Numerical Relativity*, *Physical Review D*, **61**, 041501, (2000).
[LOCATION: [CS.Alcubierre00a.pdf](#)]
- C20 Miguel Alcubierre, Gabrielle Allen, Bernd Brügmann, Edward Seidel and Wai-Mo Suen, *Towards an understanding of the stability properties of the 3+1 evolution equations in general relativity*, *Physical Review D*, **62**, 124011, (2000).
[LOCATION: [Alcubierre.pdf](#)]
- C21 Gabrielle Allen, Tom Goodale, Gerd Lanfermann, Thomas Radke, Ed Seidel, Werner Benger, H. Hege, Andre Merzky, J. Massó and John Shalf, *Solving Einstein's Equations on Supercoputers*, *IEEE Computer*, **32**, (1999). [Cover story]
[LOCATION: [CS.Allen99x.pdf](#)]
- C22 Gabrielle Allen, Nils Andersson, Kostas Kokkotas, Pablo Laguna, Jorge Pullin and Joannes Ruoff, *The close-limit approximation to neutron star collisions*, *Physical Review D*, **60** 104021, (1999).
[LOCATION: [CS.Allen99x2.pdf](#)]
- C23 Gabrielle Allen, Nils Andersson, Kostas Kokkotas, Bernard Schutz, *Gravitational Waves from Pulsating Stars: Evolving the Perturbation Equations for a Relativistic Star*, *Phys. Rev. D*, **58**, 124012, (1998).
[LOCATION: [CS.Allen98x.pdf](#)]

Conference Proceedings (Refereed)

- D1 Zhifeng Yun, Zhou Lei, Daniel S. Katz, J. Ramanujam, Gabrielle Allen, Tevfik Kosar, Shantenu Jha, to appear in: Poster reception—*Integrating Multiclusters for Efficient Application Execution*. In Proceedings of the 2009 ACM/IEEE Conference on Supercomputing (Portland, Oregon, November 14 - 20, 2009). SC '09. ACM Press, New York, NY.
[LOCATION: [CS.Yun09a.pdf](#)]
- D2 Eloisa Bentivegna, Gabrielle Allen, Oleg Korobkin and Erik Schnetter, *Ensuring Correctness at the Application Level: A Software Framework Approach*, accepted for Workshop on Component-Based High Performance Computing (CBHPC 2009).
- D3 Archit Kulshrestha and Gabrielle Allen, *Service Oriented Architecture for Job Submission and Management on Grid Computing Resources*, to appear in 16th Annual International Conference on High Performance Computing (HiPC 2009).
- D4 Gabrielle Allen, Frank Löffler, Thomas Radke, Erik Schnetter, Ed Seidel, *Integrating Web 2.0 Technologies with Scientific Simulation Codes for Real-Time Collaboration*, to appear in IEEE International Conference on Cluster Computing (Cluster 2009), Workshop on The Impact and Influence of Web 2.0 on e-Research Infrastructure, Services and Applications.
[LOCATION: [CS.Allen09.pre.pdf](#)]
- D5 Steven Brandt, Gabrielle Allen, Matthew Eastman, Matthew Kemp, Erik Schnetter, *Dynamic Deployment of a Component Framework with the Ubiqis System*, to appear in Proceeding of The Second International Conference on the Applications of Digital Information and Web Technologies, 2009.
[LOCATION: [CS.Brandt09.pre.pdf](#)]

- D6 Andrei Hutanu, Jinghua Ge, Cornelius Toole and Gabrielle Allen, *Towards an interactive and distributed visualization system for exploring large datasets*, to appear in Proceedings of 5th High-End Visualization Workshop, Baton Rouge, Louisiana, 2009.
[LOCATION: [CS_Hutanu09a.pre.pdf](#)]
- D7 Frank Löffler, Gabrielle Allen, Erik Schnetter, Jian Tao, *Benchmarking Parallel I/O Performance for a Large Scale Scientific Application on the TeraGrid*, to appear in Proceedings of the *Second International Conference on High Performance Computing and Applications (HPCA2009)*, 2009.
[LOCATION: [CS.Loeffler09a.pre.pdf](#)]
- D8 Jian Tao, Gabrielle Allen, Peter Diener, Frank Loeffler, Roland Haas, Ian Hinder, Erik Schnetter and Yosef Zlochower, *Towards a Highly Efficient and Scalable Infrastructure for Numerical Relativity Codes*, to appear, Proceedings of TeraGrid 2009.
[LOCATION: [Tao09a.pdf](#)]
- D9 Claes Eskilsson, Yaakoub El-Khamra, David Rideout, Gabrielle Allen, Q. Jim Chen and Mayank Tyagi, *it A Parallel High-Order Discontinuous Galerkin Shallow Water Model*, Computational Science ICCS 2009, Lecture Notes in Computer Science, Volume 5544/2009, p. 63-72, Springer, 2009.
[LOCATION: [CS.Eskilsson09a.pdf](#)]
- D10 Z. Lei, Z. Yun, G. Allen, X. Li, N. F. Tzeng, C. White, *Improving Application Execution in Multi-cluster Grids*, in Proceedings of 11th IEEE International Conference on Computational Science and Engineering (CSE 2008), pp.163-170, Sao Paulo, Brazil, 2008.
- D11 Z. Yun, M. Xie, F. Zhou, G. Allen, T. Kosar, and Z. Lei, *Collaborating Mechanical Design Phases Across A Grid*, in Proceedings of 11th IEEE International Conference on Computational Science and Engineering Workshops, pp.65-70, Sao Paulo, Brazil, 2008.
- D12 Emrah Ceyhan, Gabrielle Allen, Christopher White, and Tevfik Kosar, *A Grid-enabled Workflow System for Reservoir Uncertainty Analysis*, Proceedings of CLADE'08 (in conjunction with HPDC'08), p 45-52, Boston, MA, (2008).
[LOCATION: [CS.Ceyhan08a.pdf](#)]
- D13 Dayong Huang, Xinqi Wang, Gabrielle Allen, and Tevfik Kosar, *Semantic Enabled Metadata Framework for Data Grids*, Proceedings of International Workshop on P2P, Parallel, Grid and Internet Computing (3PGIC-2008), Barcelona, Spain, (2008).
- D14 Jason G. Fleming, Crystal W. Fulcher, Richard A. Luettich, Brett D. Estrade, Gabrielle D. Allen, and Harley S. Winer, *A Real Time Storm Surge Forecasting System using ADCIRC*, Estuarine and Coastal Modeling X, M. Spaulding [ed], American Society of Civil Engineers, (2008).
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